

REMARKS

The application contains claims 7-10, 16-26, and 28-36. By this amendment, claims 1-6, 11-15, 27, and 37-42 have been canceled. In view of the foregoing amendments and following remarks, Applicants respectfully request allowance of the application.

DRAWING OBJECTIONS

Applicants submit annotated marked-up FIG. 3 and Replacement Sheet FIG. 3 with all reference numerals typewritten. Accordingly, Applicants believe that this instant drawing objection is now moot.

CLAIM OBJECTIONS

Applicants believe that the foregoing amendments overcome the objection to claim 34.

PRIOR ART REJECTIONS

All pending claims stand rejected based on prior art. Applicants respectfully request withdrawal of these outstanding rejections because the prior art does not disclose, teach, or suggest all elements of the pending claims.

Claims 7-8 are allowable over the cited art.

Claim 7 stands rejected as anticipated by Davis (U.S. Patent No. 5,844,986). Claim 7 recites in part:

upon restart of the processor, determining whether system memory contains a BIOS package, . . .

upon successful authentication, storing the BIOS package in a reprogrammable BIOS memory space.

Davis fails to disclose, teach, or suggest these claimed features. In Davis, the BIOS update sequence starts when a host processor issues a "replace BIOS" command to a cryptographic coprocessor, but not upon restart of the processor. Additionally, in Davis, a new BIOS program is immediately stored internally as soon as it is received by the cryptographic coprocessor. The new BIOS program is then authenticated after it is stored. When the new BIOS program is authenticated, a previous BIOS program is deleted and the new BIOS program is made

operational. Therefore, Davis requires both the previous BIOS program and the new BIOS program to be stored while authentication is being performed. To the contrary, in claim 7, the BIOS package, which originally is stored in system memory, is stored in the BIOS memory space upon successful authentication. Accordingly, the anticipation rejection to claim 7 must be withdrawn. Claim 8, which depends from independent claim 7, also defines over the cited art.

Claims 9-10 are allowable over the cited art.

Claim 9 stands rejected as anticipated by Cooper et al. (U.S. Patent No. 5,805,882).

Claim 9 recites in part:

a second storage space to store a second system BIOS and an index table, the index table associating elements of the second system BIOS with elements of the first system BIOS.

Cooper does not disclose, teach, or suggest this claimed feature. The Examiner alleges that Cooper's memory space allocation (see col. 10, lines 23-25 and 35-37) represents an index table associating elements of the second system BIOS with elements of the first system BIOS. Applicants respectfully disagree. Cooper discloses a power up sequence for a portable computer system that is connected to a peripheral device(s)—i.e., a disk drive, a CD-ROM player, and the like--having its own BIOS data. In Cooper, only a microcontroller powers up on the BIOS information stored in a ROM, but the rest of the system powers up on the flash ROM. Particularly, upon restart, the system powers up the microcontroller and checks whether the flash ROM is corrupted before it proceeds with the power up sequence. If valid, Cooper's system powers up the CPU. Then, it scans for add on BIOS data of the peripheral device(s). Lastly, Cooper's system copies the BIOS information stored in the flash ROM into the DRAM (system memory) and executes the BIOS information from the DRAM to speed up the process.

The cited portion of Cooper (col. 10, lines 23-25) simply discloses how the DRAM is divided into multiple sections to perform different functions. A portion of the ROM BIOS is then copied into the DRAM, and the address of the DRAM section holding the ROM BIOS copy is then mapped onto the flash ROM address. Cooper, however, fails to disclose an index table that associates elements of the first system BIOS with elements of the second system BIOS. There are two system BIOSs recited in claim 9, each in respective storage spaces. Accordingly, the anticipation rejection to claim 9 must be withdrawn. Claim 10, which depends from independent claim 9, also defines over the cited art.

Claims 16-19 are allowable over the cited art.

Claim 16 also stands rejected as anticipated by Cooper. Claim 16 recites in part:

determining whether an ancillary BIOS exists in an alterable memory space,
if no ancillary BIOS exist in the alterable memory space, executing an ancillary BIOS
from the default memory space.

Cooper does not disclose, teach, or suggest this claimed feature. Cooper does not disclose a default memory space having a system BIOS and an ancillary BIOS, and an alterable memory space that may also have an ancillary BIOS. Rather, in Cooper, the ROM 176 is used only to power up the microcontroller 176, and the flash ROM 122 is always used to power up the CPU. Therefore, there is no need to check two locations—an alterable memory space and a default memory space—to find the ancillary BIOS. For at least these reasons, the anticipation rejection to claim 16 must be withdrawn. Claims 17-19, which depend from independent claim 16, also define over the cited art.

Claims 20-21 and 31-32 are allowable over the cited art.

Claims 20-21 stand rejected as anticipated by Noll (U.S. Patent No. 6,185,696 B1). Claims 31-32 stand rejected as obvious over Noll in view of Bodin et al. (U.S. Patent No. 6,091,430). Claims 20 and 31 recite in part:

if the ancillary BIOS package is present, determining whether a predetermined
user command has been entered,
if the predetermined user command has not been entered, executing the
ancillary BIOS package from the enhancement space.

Noll does not disclose, teach, or suggest this claimed feature. The Office Action alleges that Noll's disclosure regarding an error detection circuit "inherently" satisfies the limitations of claims 20 and 31. See Noll col. 6, lines 8-22. Applicants respectfully disagree. Noll never mentions a "predetermined user command." Moreover, the predetermined user command as recited in claims 20 and 31 may or may not relate to any errors in the BIOS. Thus, it is improper to assume that Noll's error detection circuit inherently determines whether a predetermined user command has been entered or the equivalent step(s) thereof.

Bodin does not cure Noll's deficiency. Bodin also fails to disclose, teach, or suggest a predetermined user command. Additionally, the Office Action fails to provide any evidence of motivation or suggestion for the alleged combination. Accordingly, the anticipation rejection to

claim 20 and the obviousness rejection to claim 31 must be withdrawn. Claims 21 and 32, which depend from independent claims 20 and 31, respectively, also define over the cited art.

Claims 22-25 are allowable over the cited art.

Claims 22-25 stand rejected as anticipated by Noll. Amended claims 22 and 24 recite in part:

determining whether an ancillary BIOS package is present in an enhancement space of firmware, the ancillary BIOS package including a BIOS update.

Noll does not disclose, teach, or suggest this claimed feature. Rather, Noll discloses a computer system having two BIOS ROMs whereby, in case a primary BIOS ROM fails, the system powers up on a secondary BIOS ROM. Noll's primary and secondary BIOS ROMs, however, contains the same BIOS information. Thus, Noll fails to disclose, teach, or suggest an ancillary BIOS package that includes a BIOS update. Accordingly, the anticipation rejections to claims 22 and 24 must be withdrawn. Claims 23 and 25, which depend from independent claims 22 and 24, respectively, also define over the cited art.

Claims 26 and 28-30 are allowable over the cited art.

Claim 26 stands rejected as obvious over Cooper in view of Bodin. Claim 26, as amended, recites in part:

during execution of a system BIOS, determining whether a video BIOS exists in an alterable firmware section of a memory system,
if no video BIOS exist in the alterable section, executing a video BIOS in a nonalterable firmware section in the memory system.

Cooper fails to disclose, teach, or suggest a nonalterable firmware section having a system BIOS and a video BIOS, and an alterable firmware section that may also have a video BIOS. Cooper does not differentiate a video BIOS from a system BIOS. Thus, Cooper does not disclose, teach, or suggest determining whether a video BIOS exists in an alterable firmware section of a memory system during execution of a system BIOS. Additionally, Cooper fails to disclose, teach, or suggest executing a video BIOS in a nonalterable firmware section in the memory system. As discussed above, in Cooper, the only BIOS in the nonalterable section is that for the microcontroller. In Cooper, even if no video BIOS is found in the alterable firmware

section (the flash ROM 122), Cooper's system does not go back to the nonalterable firmware section (the Rom 176) to execute a video BIOS.

Bodin does not cure this deficiency of Cooper. Rather, Bodin discloses a virtual device driver that supports high-resolution graphics using multiple virtual DOS applications. When one of the DOS applications writes display data to video hardware (i.e., SGVA adapter, which is a peripheral device), the system writes to the video hardware via a BIOS if the display data includes substantial changes. Bodin does not disclose a memory system having a nonalterable firmware section and an alterable firmware section, let alone a nonalterable firmware section having a system BIOS and a video BIOS. Additionally, Bodin is silent on whether the display data is written to the video hardware during execution of a system BIOS.

Moreover, the Office Action alleges that it would be obvious to combine the teachings of Bodin and Cooper because the video BIOS and the system BIOS have analogous functionality. To reject a claim as obvious, the Examiner has a burden to prove that there is some motivation or suggestion, at the time of the invention, to combine the prior art. Here, neither Bodin nor Cooper mentions anything about handling the video BIOS and the system BIOS independently during executing on a system BIOS. The Examiner has not provided any evidence to prove motivation or suggestion for the alleged combination. Accordingly, the obviousness rejection to claim 26 must be withdrawn. Claims 28-30, which depend from independent claim 26, also define over the cited art.

Claims 33-36 are allowable over the cited art.

Claims 33 and 35 stand rejected as obvious over Noll in view of Bodin. Claims 33 and 35 as amended, recite in part:

during execution of a system BIOS, determining whether a video BIOS package is present in an enhancement space of firmware, the video BIOS package in the enhancement space including a BIOS update.

As set forth above, Noll fails to disclose, teach, or suggest a video BIOS package that is independent of a system BIOS. Additionally, Noll does not disclose, teach, or suggest a video BIOS that includes a BIOS update and is stored in the enhancement space. Bodin does not overcome the deficiency of Noll. In particular, Bodin does not mention a system BIOS. Also,

Bodin fails to disclose, teach, or suggest the video BIOS in the enhancement space that includes a BIOS update. Further, neither discloses determining whether a video BIOS package is present in an enhancement space during execution of a system BIOS.

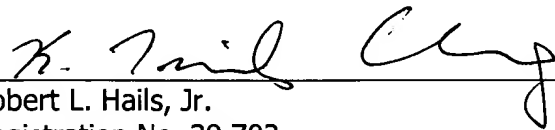
Moreover, the Office Action alleges, without citing to the references, that it would be obvious to combine the teachings of Noll and Bodin because the video BIOS and the system BIOS have analogous functionality. This assertion is unsupported because there is nothing in Noll or Bodin that provides any suggestion or motivation to combine these two references. In fact, Noll's disclosure is related to a system/method for starting up a computer whereas Bodin's disclosure is related to a system/method for generating high resolution graphics. Anywhere in either Noll or Bodin discloses that these two systems may be used interchangeably or in combination. Again, the references themselves or some other teaching must provide some suggestion or motivation to combine their teachings. The Examiner may not conclude that Applicants' invention is obvious based on improper hindsight reasoning. Accordingly, the obviousness rejections to claims 33 and 35 must be withdrawn. Claims 34 and 36, which depend from independent claims 33 and 35, respectively, also define over the cited art.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully submit that the present application is now in condition for allowance. A timely Notice to that effect is earnestly solicited. The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any aspect of the application.

Respectfully submitted,

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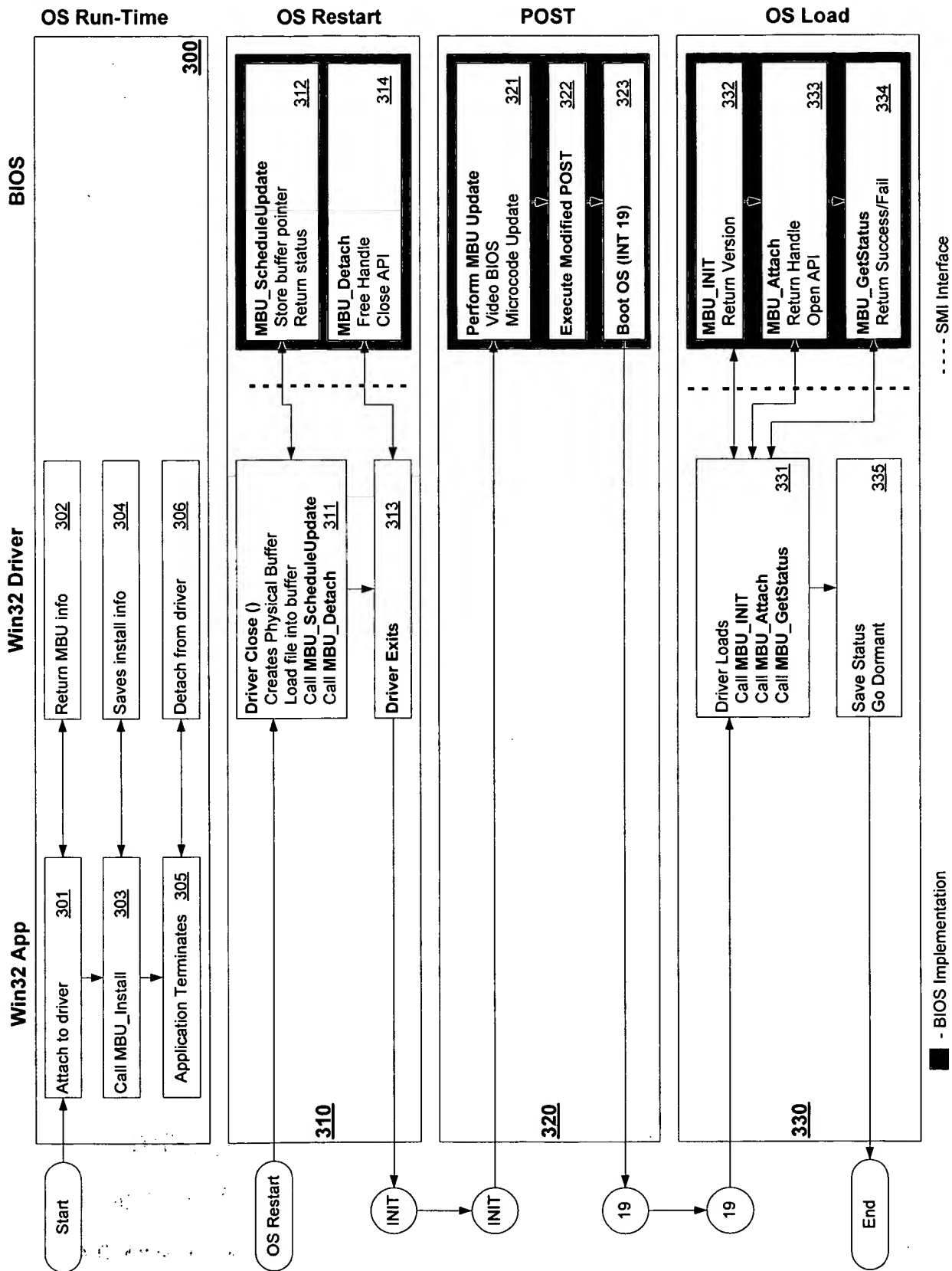


FIG. 3

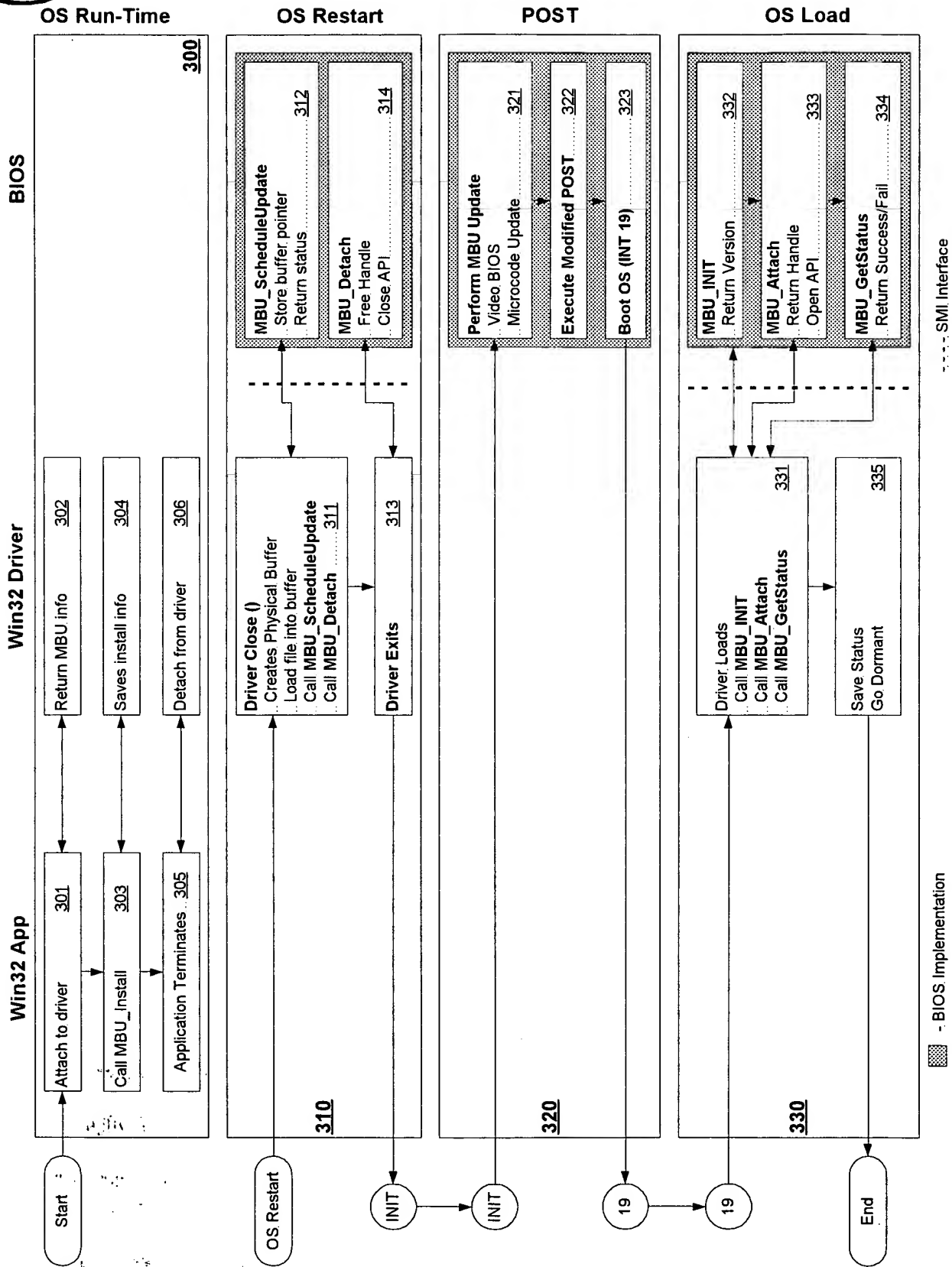


FIG. 3